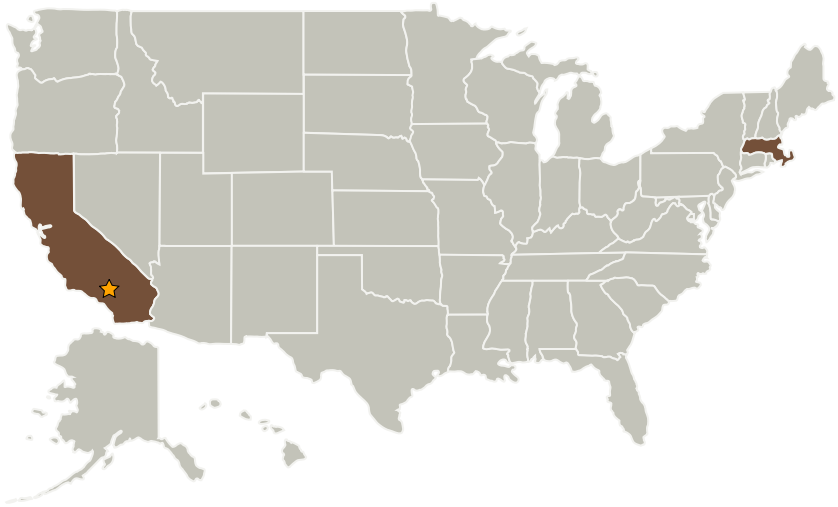
Aircraft Sensor-Logger with Power Replenishment Capabilities, Phase II

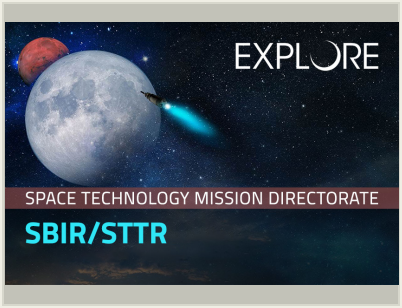
Completed Technology Project (2007 - 2009)

Project Introduction

Traditional instrumentation of an aircraft is a complex and time-consuming chore. Once the sensors are installed, long wires for power and data must be routed through to a central data collection location where several large off-the-shelf electronic components reside, adding weight, cost and increasing the probably of introducing noise or faults into the testing system. All of this necessary infrastructure leads to prohibit the use of some types of sensors and limit the total number of sensors used so save on time, cost, complexity and resources. During the course of this Phase II SBIR research, Metis Design Corporation (MDC) proposes to develop a standardized data acquisition hub for aircraft testing sensors dubbed a "sensor-logger". The sensor-logger would essentially serve as a durable sensor infrastructure node capable of autonomously facilitating local testing for multiple sensors of various types. Controlled wirelessly by PC or PDA, data could be displayed in real-time, or logged internally for up to 40 hours. The second half of the proposed research would then tie together the sensor-logger with the Phase I research, developing a power-replenishment device to attached to the sensor-logger to extend its operating capabilities. Finally both devices will be flight tested in true aircraft environments.

Primary U.S. Work Locations and Key Partners





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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Armstrong Flight Research Center (AFRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Armstrong Flight Research Center(AFRC)	Lead Organization	NASA Center	Edwards, California
Metis Design Corporation	Supporting Organization	Industry	Boston, Massachusetts

Primary U.S. Work Locations	
California	Massachusetts

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX15 Flight Vehicle Systems
  - TX15.2 Flight Mechanics
    - TX15.2.3 Flight Mechanics Testing and Flight Operations